ICOMAT 2025 – PROGRAM

Sunday-September 7

16:00-20:00	**Registration**
18:00-20:00	**Welcome Party**

Monday-September 8

			room: SUN I+II	
9:00			Opening Ceremony	
9:40	**P1**	**001_404**	**Towards Autonomous Discovery and Development of Alloys and their Manufacturing**	**Aaron Stebner (GATECH, US)**
10:20	**P2**	**002_402**	**What distinguishes and resembles bainite and martensite?.**	**Francisca Caballero (CENIM-CSIC, ES)**
11:00			***Coffee***	
			room: SUN II	Chair: Mohammad Elahinia
11:30	*Additive manufacturing*	**003_203**	**Voxel-Level Design of Functionally Graded NiTi and NiTiHf Shape Memory Alloys via Laser Powder Bed Fusion for Multi-Stage Actuation**	**Ibrahim Karaman (TAMU, US)**
12:00		004_201	Effect of Powder Characteristics on the Printability of NiTi Alloys in Laser Powder Bed Fusion	Kadri C. Atli (TAMU, US)
12:20		005_205	Additive Manufacturing of SMA Ni-Ti using Sinter-Based Methods	Eilon Faran (Technion, Haifa, IL)
12:40		006_299	Laser powder bed fusion vs. single track laser remelting of α'' Ti-Nb	Matthias Bönisch (KU Leuven, BE)
			room: SUN I	Chair: Robert Chulist
11:30	*Fundamental characterization*	**007_267**	Crystallographic analysis of stress-induced martensite in β titanium alloy by combined in-situ measurements	**Masaki Tahara (TITECH, JP)**
12:00		008_349	A Synchrotron Diffraction Study of the Total Stress Approach to Martensitic Transformations in Metastable β-Ti alloys	Nicole Church (Cambridge Uni, UK)
12:20		009_350	The formation, evolution and deformation of stress induced martensite in Ti-Nb based alloys	Nick Jones (Cambridge Uni, UK)
12:40		010_232	Mechanism of Hysteresis Widening in NiTi-Nb: Beyond the β-Nb Phase	Oliver Reed (Cambridge Uni, UK)
			room: JUPITER	Chair: Franziska Scheibel
11:30	*Elastocaloric and multicaloric*	**011_249**	**Flexocaloric effect in shape-memory alloys**	**Antoni Planes (FMC, UB, ES)**
12:00		012_283	Elastocaloric effect of NiTi alloy under multiaxial stress states	Andrej Žerovnik (Uni Ljubljana, SI)
12:20		013_285	Analysis of the elastocaloric effect in CuAlNi shape memory alloys through nano-compression experiments	Jose F. Gómez-Cortés (UPV/EHU, ES)
12:40		014_194	Elastocaloric investigation of NiTi 3D lattice structures fabricated via laser powder bed fusion under coupled mechanical deformation	Emanuele Bestetti (CNR-ICMATE, IT)
13:00			***Lunch***	
			room: SUN II	Chair: Eilon Faran
14:00	*Additive manufacturing*	015_368	Advances in Powder Sintering-Based Binder Jet Additive Manufacturing of NiTi-Cu Shape Memory Alloys: Opportunities and Challenges	Mohammad Elahinia (Utoledo, US)
14:20		016_279	Additive Manufacturing processing of Superelastic Cu–Al–Ni Shape Memory Alloys	Pérez Cerrato (UPV/EHU, ES)
14:40		017_166	Revealing the Friction and Wear Behavior of Additively Manufactured NiTi Alloy Under Different Operating Temperature Levels	Sougata Roy (Iowa State Uni, US)
15:00		018_346	Resonant Ultrasound Spectroscopy: An efficient tool for high throughput characterization of additively manufactured biomedical Ti-Nb-Zr-O alloys	Michaela Janovská (IT, CAS, Cz)

			room: SUN I	Chair: Dominique Schryvers
14:00	*Fundamental characterization*	019_165	The Martensitic Transformation in In-Tl Alloys Revisited	Trevor Finlayson (UNIMELB, AU)
14:20		020_200	Composition dependence of the distribution and hysteresis width of Martensite phases in the Au50-xCu25+xAl25 pseudobinary system	Yuki Matsuoka (Nara WU, JP)
14:40		021_300	The change of the martensitic transformation temperature on each composition by aging treatment in Cu-Al-Mn alloys	Kotaro Tomioka (TUS, JP)
15:00		022_352	Isothermal behavior of reverse ε → γ martensitic transformation in Fe-Mn-Si functional alloys with shape memory effect	Boris Kustov (UIB, ES)
15:20		023_358	Shear and shuffle-based mechanisms in modulated NiMnGa alloys	Robert Chulist (AGH/Krakow, PL)
			room: JUPITER	Chair: Antoni Planes
14:00	*Elastocaloric and multicaloric*	024_193	NiMnGa-based multicaloric alloys: functional thermo-mechanical investigation under magnetic field	Elena Villa (CNR ICMATE, IT)
14:20		025_230	Specific heat and entropy change during martensitic transformation in Ni50Mn50-xTix alloys	Tomoya Miyakawa (Tohoku Uni., JP)
14:40		026_234	Exploration of CuZnAl for elasto-caloric applications	Oneil Goisot (INP Grenoble, FR)
15:00		027_219	Development of elastocaloric device	Jaka Tusek (Uni Ljubljana, SI)
15:20		028_363	New generation of Shape Memory Alloys (SMAs) for elastocaloric solid-state heat pumps	Jan Pilch (Exergyn Ltd., IR/CZ)
15:40			***Coffee***	
			room: SUN II	Chair: Ibrahim Karaman
16:20	*Additive manufacturing*	**029_364**	**Additive Manufacturing Meets Multicalorics: Microstructure Design of Heusler Alloys for Multi-Stimuli Cycling**	**Franziska Scheibel (TU Darmstadt, DE)**
16:50		030_378	Additive manufacturing of metamagnetic shape memory alloys: heat exchangers for magnetic refrigeration	Daniel Salazar (BCMat, ES)
17:10		031_160	Mechanical properties of heterogeneous-structured 18Ni300 maraging steel manufactured by directed energy deposition	Jung Gi Kim (Gyeongsang NU, KR)
17:30		032_164	Superelastic Ti-Nb-Sn porous alloys prepared by material extrusion additive manufacturing	Tae-hyun Nam (Gyeongsang NU, KR)
			room: SUN I	Chair: Tomonari Inamura
16:20	*Fundamental characterization*	**033_161**	**The weak twins in martensite**	**Cyril Cayron (EPFL, CH)**
16:50		034_162	Beyond Martensitic Transformations: Intrinsic Orientation Relationships via Generalized Lattice Correspondences	Wenzheng Zhang (Tsinghua Uni, CN)
17:10		035_206	Disclination-mediated twin-twin reactions in martensitic transformation of titanium	Yipeng Gao (Jilin Uni, CN)
17:30		036_301	Texture Evolution in Transforming and Twinning Materials: A Comparison of Neutron Diffraction and MTEX-Based Simulations	Jan Čapek (CUNI, CZ)
			room: JUPITER	Chair: Elena Villa
16:20	*Elastocaloric and multicaloric*	**037_217**	**Latent thermal energy storage driven by martensitic transformation in shape memory materials**	**Žiga Ahčin (Uni Ljubljana, SI)**
16:50		038_235	Development of Film-Based Elastocaloric Cooling Using Shape Memory Alloy Actuators	Yi-Ting Hsiau (KIT, Karlsruhe, DE)
17:10		039_244	Elastocaloric effect covering wide temperature range in a Ti-Al-Cr shape memory alloy	Yuxin Song (Tohoku Uni., JP)

Tuesday-September 9

			room: SUN I+II	
9:00	**P3**	**040_297**	**Development and challenges of Ni-free Ti-based biomedical superelastic alloys**	**Hideki Hosoda (TITECH, JP)**
9:40	**P4**	**041_407**	**A Multiscale Approach to the Structure and Migration of α/β Interfaces and Screw Dislocations in Titanium**	**David Srolovitz (HK Uni, HK)**
10:20			***Coffee***	
			room: SUN II	Chair: Francisca Caballero
11:00	*Steels-part I*	**042_179**	**Strain accommodation in microstructure development of lath-shaped martensite and bainite**	**Tadashi Furuhara (Tohoku Uni., JP)**
11:30		043_157	The Role of Plastic Deformation in Martensitic Transformation of Low Carbon Steel	Hesham Salama (Ruhr Uni. Bochum, DE)
11:50		044_275	In situ neutron diffraction study on the development of martensitic transformation in hydrogen-charged Type 316L steel at low temperature	Tatsuya Ito (JAEA, JP)
12:10		045_247	Sustaining the TRIP Effect in High-Strength Steels for Enhanced Mechanical Performance	Xuejun Jin (SJTU, CN)
12:30		046_274	Improving the ductility of ultrahigh-strength high-carbon martensite by prior bainitic transformation	Sien Liu (U-Tokyo, JP)
			room: SUN I	Chair: Sebastian Fähler
11:00	*NiTi-part I*	**047_171**	**Detwinning Elasticity of NiTi**	**Yinong Liu (UWA, AU)**
11:30		048_370	Elastic instabilities in NiTi shape memory alloy	Petr Sedlák (IT, CAS, CZ)
11:50		049_373	Martensite Textures and Recoverable Strain Limits of NiTi: Taylor Model vs. Experiment	Luděk Heller (FZU-IoP, CAS, CZ)
12:10		050_192	Energies of type II twin boundaries and martensite plates in NiTi	Meron Doar (Technion, Haifa, IL)
12:30		051_367	A numerical tool to predict the dynamical behavior and the damping effect of Shape Memory Alloys: Application for design of NiTi based passive dampers.	Frédéric Thiebaud (Uni. Lorraine, FR)
12:50			***Lunch***	
			room: SUN II	Chair: Yuri Shinohara
14:00	*Steels-part I*	**052_238**	**Substructures and crystallographic features of as-quenched lath martensite in medium-carbon steel**	**Akinobu Shibata (NIMS, JP)**
14:30		053_211	Phase-field simulation of internal stress distribution during martensitic transformation in low-carbon steel	Yuhki Tsukada (Nagoya Uni, JP)
14:50		054_175	A novel observation of hcp martensite layer formed at bcc martensite lath boundaries in medium-Mn steel during quenching	Haiwen Luo (USTB, CN)
15:10		055_189	Deformation microstructure developed via anisotropic slip behaviour in lath martensite blocks of ultra-low carbon steel	Shohei Ueki (Kyushu Uni, JP)
			room: SUN I	Chair: Yinong Liu
14:00	*NiTi-part I*	**056_215**	**High-Rate Actuation of Shape Memory Alloys**	**Doron Shilo (Technion, Haifa, IL)**
14:30		057_343	How to transform martensite in NiTi within picoseconds	Klara Lünser (Uni-DuE, DE)
14:50		058_395	Elastic and Thermal Properties of NiTi investigated by Transient Grating Spectroscopy	Jakub Kušnír (IT, CAS, CZ)
15:10		059_289	Dynamic characterisation of NiTi during martensite–austenite transformation	Carolina Guerra (Nottingham Uni, UK)
			room: JUPITER	Chair: Toshihiro Omori
14:00	*Novel characterization and processing*	**060_305**	**Variant Selection in Polycrystalline CuAlNi and NiTi Shape Memory Alloys Investigated with In-Situ X-ray Topotomography**	**Janice Moya (UMICH, US)**
14:30		061_386	3D Characterization of Austenite-Martensite Microstructures During Mechanical Loading Using In Situ Dark-Field X-Ray Microscopy and X-Ray Topotomography	Celeste Perez (UMICH, US)
14:50		062_260	Application of full-field measurement techniques for the thermomechanical analysis of Ti-26Nb, Ti-25Nb-0.3O and Ti-25Nb-0.3N shape memory alloys under tension	Karol Marek Golasiński (UKSW, PL)
15:10		063_281	Mechanical splicing of superelastic Cu-Al-Mn alloy bars with rolled threads	Sumio Kise (Furukawa Techno Material Co, JP)
15:30			**Coffee + Posters**	

			room: SUN II	Chair: Andersan S. Paula
16:20	*Steels-part I*	064_195	Enhancement of Shear-Band Formation During Bending through Tempering and Its Influence on Crack Suppression in Low-Carbon Martensitic Steel	Naoki Maruyama (Osaka Uni, JP)
16:40		065_381	Competing effects of grain refinement and Cr23C6 carbide precipitation on martensitic transformation behavior in low-Ni austenitic stainless steel	Yeonggeun Cho (POSTECH, KR)
17:00		066_256	Plastic Deformation Mechanism of Low-Carbon Steel Lath Martensite by Multi-scale Deformation Analysis	Shuang Gong (U-Tokyo, JP)
17:20		067_268	Variant selection in deformation-induced martensitic transformation during tensile deformation of ultrafine grained metastable austenitic steel	Yuanhong Liu (Kyoto Uni, JP)
17:40		068_263	Fatigue crack growth in metastable austenitic stainless steels related to martensitic transformation-induced hydrogen embrittlement	Yuhei Ogawa (NIMS, JP)
			room: SUN I	Chair: Nick Jones
16:20	*High-temperature*	069_317	Complex Thermomechanical Loading Paths for High Temperature Shape Memory Alloys	Dimitris C. Lagoudas (TAMU, US)
16:40		070_323	Shape memory behavior of additively manufactured Ti-Ta high-temperature shape memory alloy lattice structures	Christian Lauhoff (Uni Kassel, DE)
17:00		071_357	Effects of Chemistry and Annealing Treatments on HTSMA Ni-Ti-Hf-Nb Alloys	Alberto Coda (CNR-ICMATE, IT)
17:20		072_212	On designing Aging of Stress-Induced Martensite in Order to Produce High Temperature Shape Memory Alloys	Asmaa Hassan (Uni Debrecen, HU)
17:40		073_369	Effect of Fast Laser Shape Setting on Functional Performances of Thin NiTiHf based Shape Memory Alloy for High Temperature Applications	Carlo Alberto Biffi (CNR, Lecco, IT)
			room: JUPITER	Chair: Klara Lünser
16:20	*Novel characterization and processing*	074_314	Acoustic emission-a promising tool to study the functional stability of superelasticity of shape memory alloys	Anja Weidner (TU Freiberg, DE)
16:40		075_158	Investigation of TiNi Shape Memory Alloy, Polymer and TiNb Ni -free High Elastic Alloys by using Digital Image Correlation, Infrared and Acoustic Emission Techniques	Elżbieta Pieczyska (IPPT PAS, PL)
17:00		076_408	Acoustic Emission Characteristics of Martensitic Transformation in Superelastic NiTinol	Lukáš Kadeřávek (FZU-IoP, CAS, CZ)
17:20		077_330	Growth kinetics and property tuning in magnetic shape memory alloys prepared by optical floating zone growth	Denys Musiienko (FZU-IoP, CAS, CZ)
17:40		078_398	Microstructural features of NiMnGa polycrystalline alloys manufactured by rapid solidification methods	Anna Wojcik (AGH/Krakow, PL)
19:00-21:00			**International Advisory Committee Meeting**	

Wednesday-September 10

			room: SUN II	Chair: Cyril Cayron
9:00	*Microstructures in shape memory alloys & ceramics*	**079_204**	**Suppression of transformation-induced dislocations in supercompatible martensite microstructure satisfying the triplet condition in Ti-Ni based**	**Tomonari Inamura (TITECH, JP)**
9:30		080_307	Analysis of complex microstructures in Ti76Nb22Al2	John M. Ball (Heriot-Watt Uni, UK)
9:50		081_169	Crystallographic and morphological changes during successive stress-induced martensitic transformations in single crystal Cu-Al-Mn shape memory alloys	Hiroshi Akamine (Kyushu Uni, JP)
10:10		082_173	Reorientation Behavior of Martensitic Variants and Mechanical Response in Aged Ti–Mo–Al Shape Memory Alloys	Naoki Nohira (TITECH, JP)
10:30		083_366	Supercompatibility and nucleation in martensite	Mohd Tahseen (IISC, IN)
			room: SUN I	Chair: Masaki Tahara
9:00	*High-temperature*	**084_371**	**NiTi-Hf Shape Memory Alloys via Binder Jet Printing: Materials Insights and Process Strategies**	**Mohammad Elahinia (Utoledo, US)**
9:30		085_329	Microstructure Evolution of Ni-Ti-Hf Shape Memory Alloys Manufactured via Additive Manufacturing Processes	Philipp Krooß (Uni Kassel, DE)
9:50		086_181	Effect of Hf on the martensitic transformation behavior and self-accommodation in Ti-Ni-Hf and Ti-Pd-Hf alloys	Mitsuhiro Matsuda (Kumamoto Uni, JP)
10:10		087_391	Exploring Crack Dynamics and Actuation Fatigue in NiTiHf High-Temperature Shape Memory Alloys with High Hf Content	Benat Kockar (Hacettepe Uni, TR)
10:30		088_412	Tensile actuation using NiTiHf HTSMA fabricated via LPBF additive manufacturing	Petr Šittner (FZU-IoP, CAS, CZ)
			room: JUPITER	Chair: Jose San Juan Nunez
9:00	*Modelling*	**089_354**	**Nanotwinning and magnetoelastic coupling in Ni-Mn-based Heusler compounds from first principles**	**Markus Gruner (Uni-DuE, DE)**
9:30		090_190	Investigation on the electronic structure of modulated martensite phase of magnetic shape memory alloy Ni2MnGa via quasi-particle self-consistent GW approach	Masao Obata (Kanazawa Uni., JP)
9:50		091_345	Predictions of modulation and structural stability of Ni-Mn-X (X = Al, Ga, In) from first-principles	Jakub Luštinec (FZU-IoP, CAS, CZ)
10:10		092_227	Ab initio study of long-period commensurate structures of Ni2MnGa modulated martensite	Martin Zelený (FME, TU Brno, CZ)
10:30		093_397	Antiphase boundaries in Ni2MnGa: an atomistic perspective	Jan Zemen (FZU-IoP, CAS, CZ)
10:50			***Coffee***	
			room: SUN II	Chair: Avadh Saxena
11:30	*Microstructures in shape memory alloys & ceram.*	**094_380**	**Crystallographically compatible ceramic shape memory materials**	**Eckhard Quandt (Uni Kiel, DE)**
12:00		095_262	An EBSD Study of Crystallographic Correspondences and Variant Selection in Zirconia-Based Shape Memory Ceramics	Alejandra Slagter (Northwestern Uni, US)
12:20		096_372	Martensitic phase transformations in a compositionally graded thin film	Ole Martin Løvvik (SINTEF, NO)
12:40		097_401	Supercritical martensitic phase transformations in NiFeGaCo ferromagnetic shape memory alloys	Timothy Thompson (UMICH, US)
			room: SUN I	Chair: Denys Musiienko
11:30	*Small scales in SMAs*		**Functional behaviour of shape memory alloys at the nanoscale: An overview.**	**Jose M. San Juan (UPV/EHU, ES)**
12:00		099_322	Magnetic Manipulation of Spatially Confined Multiferroic Heuslers by Martensitic Microstructure Engineering	Milad Takhsha (IMEM-CNR, IT)
12:20		100_242	Martensitic transformation in Ni2FeGa Glass-Coated Microwires	Ondrej Milkovič (Rvmagnetics, SK)
12:40		101_411	Coherent electron imaging of magnetic nanoparticles	Marco Beleggia (UNIMORE, IT)

			room: JUPITER	Chair: Martin Zelený
11:30	*Modelling*	**102_375**	**Simulating the early stages of martensite band formation in pseudoelastic wires**	**Maximilian Hinze (TU Chemnitz, DE)**
12:00		103_396	Constitutive modeling of martensite plasticity and TRIP in polycrystalline shape memory alloys	Miroslav Frost (IT, CAS, CZ)
12:20		104_389	High-resolution strain-field mapping during nucleation and propagation of martensite bands in pseudoelastic NiTi	Martin Wagner (TU Chemnitz, DE)
12:40		105_298	Shell-based finite element modelling for predicting buckling stability of superelastic SMA tubes	Adam Plantarič (Uni Ljubljana, SI)
13:00			***Lunch***	
			room: SUN I+II	
14:00			**Memorial Session** (chaired by Petr Šittner)	
14:40	**P5**	**106_224**	**Probing theory of martensite by epitaxial films**	**Sebastian Fähler (HZDR, DE)**
			Coffee + Posters	
15:50	**P6**	**107_406**	**Development of high-performance shape memory alloys for elastocaloric refrigeration technology**	**Qingpin Sun (UST HK, HK)**
16:30-17:20			**Popularization & Outreach Roundtable** (Julie Nováková, Hanuš Seiner, Dominique Schryvers, Aaron Stebner, Yinong Liu)	
19:00-22:00			**Conference Dinner**	

Thursday-September 11

			room: SUN II	Chair: Manabu Takahashi
9:00	*Steels-part II*	108_187	Microstructure refinement of 0.1C-4Mn martensitic steel utilizing heterogeneous Mn distribution	Ji Hoon Kim (Pusan NU, KR)
9:20		109_177	Effect of microstructure on hole expansion ratio of advanced high strength steel	Jin Sung Hong (Hyundai Steel R&D Center,
9:40		110_248	Effect of microstructure on mechanical properties of 1.0G TRIP steels produced by quenching and partitioning process	Wontae Cho (POSCO, Kwang., KR)
10:00		111_311	Effect of the manufacturing method and heat treatment on martensite formation in maraging 250 steel	Andersan dos Santos Paula (IME-EB, BR)
			room: SUN I	Chair: Qingping Sun
9:00	*NiTi-part II*	112_258	Fatigue performance of low-temperature aged NiTi filaments	Ondřej Tyc (FZU-IoP, CAS, CZ)
9:20		113_252	Third element diffusion induced amorphization of NiTi	Hong Yang (UWA, AU)
9:40		114_400	Aging effect on orientation dependent superelastic behavior of NiTi Shape Memory Alloy by multicycle nanoindentation	Akhil Bhardwaj (FZU-IoP, CAS, CZ)
10:00		115_213	Standard and repetitive load-unload nanoindentation studies on superelastic and shape memory NiTi	Sneha Samal (FZU-IoP, CAS, CZ)
			room: JUPITER	Chair: Markus Gruner
9:00	*Modelling*	116_319	Hydrogen Outgassing from FCC Metal Surfaces under Thermal Treatment	Avadh Saxena (LANL, US)
9:20		117_347	Development of neural network interatomic potentials for molecular dynamics: Application for martensitic nickel titanium	Petr Jaroš (IT, CAS, CZ)
9:40		118_270	Reversible domain switching induced by gradient precipitation with high dissipative superelasticity at low temperature	Dong Wang (XJTU, CN)
10:00		119_231	Grain boundary network-induced martensitic transformations in polycrystals at finite strains: Multiphase-field approach and scale-effect	Newton (IITTP, IN)
10:20			***Coffee***	
			room: SUN II	Chair: Tadashi Furuhara
11:00	*Steels-part II*	**120_312**	**Analysis of Variant Pair Formation on Σ3 Boundaries in Lenticular Martensite Microstructures**	**Yuri Shinohara (UEC, JP)**
11:30		**121_198**	**Martensitic Transformation-Dominated Lüders Deformation in Ultrafine-Grained 304 Steel at 77K**	**Stefanus Harjo (JAEA, JP)**
12:00		122_324	Revisiting γ-ε martensitic transformation: sluggish plate growth and significant TRIP effect.	Kaneaki Tsuzaki (Kyushu Uni, JP)
12:20		123_333	Effects of Cryogenic Rolling and Metallographic Preparation on Martensitic Transformation and Residual Stress in 304L TRIP Steel	Andersan dos Santos Paula (IME-EB, BR)
12:40		124_280	Cyclic Transformation Strengthening in Fine-Grained Fe-24Ni-0.3C Metastable Austenitic Steel Studied by In-Situ Synchrotron XRD	Mayu Dono (Kyoto Uni, JP)
			room: SUN I	Chair: Rubén Santamarta
11:00	*New alloys*	**125_293**	**Prospects and challenges in Fe-based shape memory alloys**	**Thomas Niendorf (Uni Kassel, DE)**
11:30		**126_228**	**Crystal structure and superelasticity in novel Fe-Mn-Al-Si alloy**	**Toshihiro Omori (Tohoku Uni., JP)**
12:00		127_254	Ordering and Martensitic Transformation in Fe-Mn-Al-Ga Alloys	Ji Xia (Tohoku Uni., JP)
12:20		128_315	In situ studies on the functional stability of a polycrystalline highly textured Fe-Ni-Co-Al-Ti-B shape memory alloy using synchrotron X-ray diffraction and acoustic emission measurements	Anja Weidner (TU Freiberg, DE)
12:40		129_272	Change in Reverse Transformation Start Temperatures of Fe-33%Ni and Fe-28%Ni-20%Co Alloys by Shot-Peening	Hisashi Sato (NITECH, JP)

			room: JUPITER	Chair: Doron Shilo
11:00	*Magnetic shape memory*	**130_342**	**Bridging Fundamental Crystallography and Magnetic Shape Memory: Minor Diffraction Features Reveal Anharmonic Incommensurate Modulation in Ni-Mn-Ga Single Crystals**	**Petr Veřtát (FZU-IoP, CAS, CZ)**
11:30		**131_382**	**Modulated structures & Elasticity: On the road towards understanding the supermobility in Ni-Mn-Ga**	**Tomáš Grabec (IT, CAS, CZ)**
12:00		132_339	Long-period Commensurate States in Ni-Mn-Ga Modulated Martensite	Ladislav Straka (FZU-IoP, CAS, CZ)
12:20		133_310	Temperature and stress induced structural transformations in Ni50Mn27Ga22Fe1 alloy	Mariia Vinogradova (LUT Uni., FI)
12:40		134_207	Austenite-Martensite interface propagation in Ni-Mn-Ga single crystal	Xingke Gao (Uni. Paris-Saclay, FR)
13:00			***Lunch***	
			room: SUN II	Chair: Akinobu Shibata
14:00	*Steels-part II*	**135_176**	**Variant selection in deformation-induced martensite transformation**	**Manabu Takahashi (Kyushu Uni, JP)**
14:30		136_210	Microstructure and bending fatigue behavior of martensite steel with 0.4%C subjected to different heat treatments	Jiaqiang Dang (U-Tokyo, JP)
14:50		137_208	In-situ 3D characterization of deformation-induced martensitic transformation in metastable austenitic alloy by synchrotron X-ray micro-and nano-tomography	Tatsuya Iwano (Kyushu Uni, JP)
15:10		138_174	Hydrogen Cation-Induced Martensitic Transformation During Electrochemical Hydrogen Charging in Metastable Austenitic Stainless Steel	Heung Nam Han (Seoul NU, KR)
			room: SUN I	Chair: Hiroshi Akamine
14:00	*New alloys*	**139_296**	**Enhanced Mechanical Properties by FCC-HCP Martensitic Transformation in Co-Cr-Mo-Ni Medium Entropy Alloys**	**Koichi Tsuchiya (NIMS, JP)**
14:30		140_257	Structure formation in high entropy shape memory alloys	Georgiy Firstov (IMP Kyev, NASU, UA)
14:50		141_291	Fe-based near HEA with shape memory effect: microstructure and quantitative characterization of the martensitic transformation	Lucia del Río (UPV/EHU, ES)
15:10		142_184	A polymer-like ultrahigh-strength metal alloy	Yuanchao Ji (XJTU, CN)
			room: JUPITER	Chair: Anja Weidner
14:00	*Magnetic shape memory*	**143_229**	**Sharp Atomic Structure of Highly Mobile Type I and Type II Twin Boundaries in Ni-Mn-Ga Magnetic Shape Memory Single Crystal**	**Marek Vronka (FZU-IoP, CAS, CZ)**
14:30		144_374	Demagnetization tensor for a parallelepiped with a mirror symmetry in the xy plane and its use for magnetically induced reorientation in Ni-Mn-Ga crystal sample.	David Vokoun (FZU-IoP, CAS, CZ)
14:50		145_390	Elastic moduli measurements in 10M martensite of Ni-Mn-Ga-based alloys with commensurate and incommensurate lattice modulation	Andrey Saren (LUT Uni., FI)
15:10		146_348	Magnetic anomalies in Ni-Mn-Ga-x austenite and premartensite	Alexej Perevertov (FZU-IoP, CAS, CZ)
15:30			**Coffee + Posters**	
			room: SUN II	Chair: Luděk Heller
16:20	*NiTi-part III*	147_196	Transformation behaviors and microstructur aspects in hydrogen-charged Ti-Ni alloys	Minoru Nishida (Kyushu Uni, JP)
16:40		148_159	EBSD and TKD Study of Microstructure Evolution in NiTi Alloys	Junfeng Xiao (EPFL, CH)
17:00		149_359	In-situ DMA studies during thermomechanical loading of NiTi wires	Elizaveta Iaparova (FZU-IoP, CAS, CZ)
17:20		150_331	Unraveling the precipitation-controlled martensite self-accommodation and shape memory effect in NiTi alloy across atomic scale and microscale	Shanshan Cao (SCUT, CN)

			room: SUN I	Chair: Dimitris C. Lagoudas
16:20	*New alloys*	151_222	In situ neutron diffraction examination of anomalous hysteresis behavior in Co-Cr-Al-Si superelastic alloys	Xiao Xu (Tohoku Uni., JP)
16:40		152_379	Elastic behavior of Co-Cr-Ga-Si: Resonant ultrasound spectroscopy at Weyl's asymptote and giant negative magnetoelastic coupling	Hanuš Seiner (IT, CAS, CZ)
17:00		153_220	Realization of tensile plasticity and shape memory effect in NiMnGa shape memory alloys by constructing a unique dual-phase configuration	Jiaxi Meng (Beihang Uni, CN)
17:20		154_214	The origin of the β-relaxation phenomenon in strain glass: a phase field modeling	Chuanxin Liang (XJTU, CN)
			room: JUPITER	Chair: Jan Frenzel
16:20	*Magnetic shape memory*	155_328	Effect of solidification rate on martensitic transformation behavior of Cu-doped Ni-Mn-Ga metamagnetic shape memory ribbons	Natalia A. Río-López (UPV/EHU, ES)
16:40		156_250	Magnetic-field-induced martensitic transformation with small hysteresis in Mn3Ga alloys	Daisuke Imatomi (Tohoku Uni., JP)
17:00		157_265	Correlation of Crystallographic and Magnetic Domain Structures in Fe-61.8at%Pd Alloy	Yuto Tomita (Kyushu Uni, JP)
17:20		158_303	Magnetostructural behaviour of Ni35Co13Mn35-xFexTi17 melt spun-ribbons	Mariana Ríos Naranjo (BCMat, ES)

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			room: SUN II	Chair: Minoru Nishida
9:00	*Fatigue & fracture*	**159_393**	**Influence of Ni-content and Precipitates on the Mechanical and Actuation Fatigue Crack Growth of NiTiHf High-Temperature Shape Memory Alloys**	**Dimitris C. Lagoudas (TAMU, US)**
9:30		160_362	Micro crack growth in NiTi based shape memory alloys	Jan Frenzel (Ruhr Uni. Bochum, DE)
9:50		161_182	On the origin of functional fatigue of nanocrystalline NiTi wires	Petr Šittner (FZU-IoP, CAS, CZ)
			room: SUN I	Chair: Georgiy Firstov
9:00	*New alloys*	**162_325**	**Characterization and influence of Ni3Ti precipitates on functional properties of All-d-Metal Ni-Mn-Ti Magnetic Shape Memory Alloys**	**Rubén Santamarta (UIB, ES)**
9:30		163_277	Observation of strain-spin dual-glass state in all-d-metal Heusler alloy Ni2MnTi	Qiusa Ren (IoP CAS, CN)
9:50		164_341	Development of Cu-doped Ni-Mn-Ga metamagnetic shape memory alloy powders	Daniel Salas (UIB, ES)
			room: JUPITER	Chair: Ladislav Straka
9:00	*Smart applications and processing*	**165_304**	**Origami-Inspired Reprogrammable Shape Memory Alloy Microactuator System**	**Vincent Gottwald (KIT, Karlsruhe, DE)**
9:30		166_202	Interlocking Metasurfaces: A New Paradigm for Adaptive and Reconfigurable Joining	Abdelrahman Elsayed (TAMU, US)
9:50		167_226	Proof-of-concept of superelastic active mechanical metamaterials using Cu-Al-Ni shape memory alloys.	Ander Abadín (UPV/EHU, ES)
10:10			***Coffee***	
			room: SUN II	Chair: Kaneaki Tsuzaki
10:50	*Steels-part III*	**168_241**	**Introduction to 3D in-situ characterization technique for deformation-induced martensitic transformation using synchrotron X-ray**	**Osamu Takakuwa (Kyushu Uni, JP)**
11:20		169_261	A novel quench cracking characterisation method for induction-hardened steels with different thermal histories	Aysu Catal Isık (UCL, London, UK)
11:40		170_170	Anisotropic cleavage fracture caused by transformation-induced internalstress in an as-quenched martensite	Nobuo Nakada (TITECH, JP)
12:00		171_178	Development of Cold-rolled Martensitic Steels with excellent flatness and resistance to hydrogen delayed fracture	Min-Ho Jang (Hyundai Steel R&D Center, KR)
			room: SUN I	Chair: Petr Sedlák
10:50	*New alloys*	**172_191**	**A lightweight yet strong Ti-Al-based superelastic alloy operating across a wide temperature range**	**Sheng Xu (Tohoku Uni., JP)**
11:20		173_269	Tunable High Contrast Changes in Transport Properties of Metamagnetic Phase Change Materials	Serdar Torun (TAMU, US)
11:40		174_245	Effect of Composition on the Degree of B2 Ordering in Ti-Al-Cu Shape Memory Alloys	Hirobumi Tobe (Iwate Uni, JP)
12:00		175_290	Design and characterization of a new quaternary Cu-Al-Ni-Ga shape memory alloy	Maria L. Nó (UPV/EHU, ES)
			room: JUPITER	*Chair: Petr Veřtát*
10:50	*Smart applications and processing*	**176_225**	**An Implantable Device Based on Shape Memory Alloys**	**Israel Alexandron (BGU, IL)**
11:20		177_163	Recovery stress and tensile behavior under recovery stress of cold-drawn superelastic SMA wires	Eunsoo Choi (Hongik Uni., KR)
11:40		178_318	Recycling of NiTi shape memory alloys-effects of melting methods and processing conditions	Sakia Noorzayee (Ruhr Uni. Bochum, DE)
12:20			**Short break**	
			room: SUN II	
12:30-12:50			**Closing Ceremony**	

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P02_266	The relationship between degree of order and martensitic transformation behavior in 68Cu–16Al–16Zn	Megumi Takayama
P03_199	In-situ crystallographic analysis of habit plane in stress-induced martensitic transformation of Ti-Ni alloy single crystals	Kosei Ono
P04_321	On interaction between deformation twins and LPSO phases in Mg alloys	Andrej Ostapovec
P05_167	Lattice Distortion - Atomic Shuffle Coupling of the R phase in NiTi	Yuxuan Chen
P06_188	R-Phase transformation in Ti-Ni-Co alloys	Jaeil Kim
P07_286	Electrical Resistivity Changes during Successive Transformations in Ti-Ni Alloy under Stress Loading	Yohei Soejima
P08_403	Effect of molten zone geometry on compositional homogeneity in NiMnGa crystals obtained by optical floating zone method	Valentina Moskvina
P09_185	Characterization of Ti50Ni50-XMoX (X=2; 6) alloy produced by high-energy ball milling	Tomasz Goryczka
P10_264	Laser focal length influence in H13 Tool Steel Deposition Through L-DED	ANDERSAN PAULA
P11_183	Influence of two-step aging treatment on precipitation behavior of as-built 18Ni-maraging steel fabricated by laser powder bed fusion	Sung Hwan Hong
P12_394	A Fast-Track Approach to Ti–20Nb–6Ta Alloy via PBF-LB for Biomedical Applications	João Felipe Queiroz Rodrigues
P13_399	Digital Image Correlation-Based Local Strain Evaluation in EBM-Additive Manufactured NiTi Part	SAVAS DILIBAL
P14_327	Microstructural Aspects Ti6Al4V Alloy Processed by LBPF Investigated by EBSD Technique	Fábio Oliveira
P15_338	Acoustic emission from displacive phase transitions: comparison of martensitic and ferroelectric model materials	Uwe Klemradt
P16_276	Characterization of permanent lattice defects and strain generated by forward or reverse martensitic transformation in NiTi wire	Orsolya Molnárová
P17_351	In-situ Measurement of Elasticity During Thermally Induced Phase Changes Using Dove Prism-Enhanced Transient Grating Spectroscopy	Pavla Stoklasová
P18_334	Actuation characteristics of spring-biased NiTi shape memory alloy wires under pulsed current stimulation	Xiao Ma
P19_313	Thermomechanical Characterization of very thin Ni50Fe27Ga23 Shape Memory Microwire	Limpat Nulandaya
P20_365	Influence of Sputtering Parameters on Functional and Mechanical Behavior of Ni-Rich NiTi Films	Andersan dos Santos Paula
P21_377	Martensitic transformation in Heusler alloy nanostructures	Michal Varga
P22_353	Angular dependence in magnetically induced reorientation	David Hruška
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P24_410	Tuning magneto-structural transitions in Ni-Mn-Ga melt-spun ribbons through Co and Cu doping	Milena Kowalska
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P27_385	Scanning twin boundary mobility in 10M martensite of Ni-Mn-Ga alloy from subatomic to macroscopic scale	Andrey Saren
P28_344	Probing martensitic transformation in Ni-Mn-Ga via high-frequency ferromagnetic resonance	Sviatoslav Vovk
P29_259	Elastocaloric effect in polycrystalline NiMnGa produced through hot-rolling powder consolidation	Francesca Villa
P30_384	Microstructure and Elastocaloric Effect of a Ti-Ni-Zr-Sn Shape Memory Alloy	Zhiyong Gao
P31_392	Modulation of NI2MnGa described by generalized susceptibility based on Wannier functions.	Dominik Váňa
P32_209	Tensile deformation of cold rolled Fe-Ni-C metastable austenitic steel investigated by in-situ synchrotron XRD	Naoki HARADA
P33_302	Mechanical Testing at Elevated and Cryogenic Temperatures with Concurrent Acoustic Emission and Electrical Resistivity Monitoring	Jan Čapek
P34_271	Surface Microstructures Formed by Shot-Peening of Fe-33mass%Ni Alloy	Marie Kondo
P35_292	Acoustic emission measurements during plastic deformation of FeMn(Cr) TWIP steel.	Lajos Daróczi
P36_186	Novel sub-grain structures in B2 of a cold-rolled TiNi shape memory alloy with unique property	Qianglong Liang
P37_218	Effect of excess Ti solutes on the martensitic transformation behavior and microstructure of Ti-rich Ti50+xNi (x = 0, 0.5, 1, 1.5, 2) shape memory alloys via rapid solidification	Nian-Hu Lu
P38_335	Superelasticity over a wide temperature range in a NiTiCu shape memory alloy via laser powder bed fusion	Haizhou Lu

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P41_309	Martensitic transformation behaviors and damping properties of Cu-Al-Fe-Co high-temperature shape memory alloys	Wei Ting Guo
P42_295	Damping characteristics of Cu-13.5Al-4Ni-xTi shape memory alloys	KAI-MIN HUANG
P43_284	Effects of Au addition on the internal friction of Cu-Al-Mn shape memory alloys	Wei-Jhen Hsu
P44_360	Influence of Particle Size and Microstructure on the First-Order Magnetostructural Phase Transition in Ni-Mn-Sn Heusler Alloy	Johannes Puy
P45_337	Low melting point composites based on metamagnetic Ni-Co-Mn-In-Cu alloy for magnetic refrigeration	Vicente Sánchez-Alarcos
P46_356	Optimizing NiTi Interatomic Potentials Through Atomic Cluster Expansion	Petr Šesták
P47_243	Phase-field study on austenite-martensite interface formation in Shape Memory Alloys	Bingqian WANG
P48_326	Automated Classification of Martensitic Microstructures in Ti6Al4V via Transfer Learning: A Metallographic and Literature-Based Approach	Edilvando Eufrazio
P49_216	Phase-field simulation of martensitic transformation during continuous cooling in polycrystalline low-carbon steel	Takumi Okamoto
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P54_251	Hydrogen-Induced Modifications in Nickel-Titanium Alloys: Correlating Electronic Transport and Phase Transformations	Torben Tappe
P55_240	Microstructural Studies of Fe-Pd Martensitic Crystals using Elastic and Inelastic Neutron Scattering	Trevor Finlayson
P56_278	Analysis of Fatigue Behavior of Martensitic Steel Using Digital Holographic Microscope	Yusuke Matsui
P57_316	Hybrid Modeling Framework for Shape Memory Alloys	Dimitris C Lagoudas
P58_409	A Multiphase-Field Model for Grain Boundary-Induced Martensitic Transformations in Polycrystals at Finite Strains with Scale Dependence.	Newton .
P59_332	Structure and Microstructure-based Elastic Property study on a Co41Ni32Al27 Ferromagnetic Shape Memory Alloy Melt-spun ribbon	RAJINI KANTH BHOGOJU
P60_383	Structural-functional integrated TiBw/Ti–V–Al lightweight shape memoryalloy composites	Xianglong Meng
P61_336	High tensile stress actuation with NiTiHf high-temperature shape memory alloys additively manufactured via laser powder bed fusion	Hongwei Ma
P62_237	Phase transformation and texture evolution in a metastable medium entropy alloy	Ibrahim Ondicho
P63_253	Functional properties comparison for high entropy and conventional shape memory alloys: few application perspectives	Vira Filatova
P64_355	Microstructural aspects of bcc-hcp-fcc displacive transformations in annealed HEA melt spun ribbons	Wojciech Maziarz
P65_273	In-situ Observation of the Formation of Lath Martensite Microstructurein Fe-Ni-Cr-C Alloy	Wataru Aoki
P66_236	Tensile properties and deformation-induced martensitic transformation in Fe-Ni-C steel	Ryoya OISHI